



Editorial

Air Crash: Importance of Disaster Victim Identification

Air travel though is the fastest and one of the safest modes of transportation, air crashes do occur either due to technical issues or due to manmade mistakes and sometimes due to terror attacks. There are many air crashes have happened in the past decades such as Malaysia Airlines Flight MH17 (2014), Ethiopian Airlines Flight 302 (2019), Air India Express Flight IX1344 (2020) and a recent one i.e. Air India Flight 171 on 12th June 2025. Air crashes often result in catastrophic loss of life. The aftermath of such tragedies is marked not only by intense grief and emotional challenges but also by complex logistical and legal requirements. One of the most critical aspects of responding to an air crash is the identification of victims. It is essential to identify everyone in air crash as they deserve to be treated with dignity even after death. Every victim must be recognized as individuals, not as anonymous casualties. This recognition is the first step toward a respectful and dignified final disposition, honouring cultural and religious customs associated with death. Uncertainty over a loved one's fate is one of the most agonizing experiences for families. Families can start the grieving process, carry out final rituals, and achieve emotional closure through positive identification. In order to transfer property, settle insurance claims, issue death certificates, and settle inheritance disputes, identification is necessary. To manage assets, cancel accounts, and get compensation, families must have official documentation of the death. Identification delays frequently increase financial hardship and legal dilemma. Accurate identification helps investigators piece together what happened before the tragedy. It assists in figuring out seating configurations, injury trends, and even the precise cause of death information that is essential for comprehending the mechanics of crashes and advancing safety. Accurate victim identification facilitates criminal investigations, international inquiries, and legal actions in situations where negligence, sabotage, or foul play are suspected. It contributes to the chain of evidence used to hold accountable those who are at fault. Identifying those who lost their lives is a multifaceted process that blends forensic science with compassion, precision, and legal responsibility.

There are many challenges in identification after aircrashes. Intense burns, aircraft breakup, and the dispersal of remains across large or inaccessible areas are all common features of high-impact plane accidents. The extreme trauma and deformity make visual identification difficult since bodies are frequently burned, dismembered, or severely disfigured. Comparing post-mortem information with ante-mortem records—such as DNA samples, dental records, and fingerprints—is essential to identification. This data is hard to gather and match if passengers come from different nations or areas with different record-keeping systems. Time Limitation is another challenge as environmental variables can cause remains to decay quickly, particularly in isolated or adverse environments (such as mountains, oceans, or jungles). To avoid contamination and decomposition, recovery and processing must be completed quickly. The social and psychological influences also play a vital role in the identification process. The public and families frequently expect prompt

responses. Rushing the identification process, however, increases the chance of mistakes. Although it is uncommon, misidentification can cause severe trauma and lead to legal issues.

Globally, the process of Disaster Victim Identification (DVI) in air crashes follows Interpol's standardized protocols. These methods are used individually or in combination to ensure accurate results. In this method, following parameters are considered; **Fingerprint Analysis** - One of the most reliable methods when hands are intact. Fingerprints can be matched against official identity databases such as those held by immigration or law enforcement agencies. **Dental Records (Odontology)** - Teeth and dental work are often preserved even in severe crashes. Dentists' records, X-rays, and charts are compared to post-mortem findings, often yielding quick and reliable matches. **DNA Profiling** - DNA is extracted from bones, teeth, hair, or soft tissues and compared with samples from relatives or personal items like combs or toothbrushes. It is especially valuable when other methods are not possible due to decomposition or fragmentation. **Anthropology and Pathology** - Forensic anthropologists analyze skeletal remains to estimate age, sex, stature, and possible medical conditions. Pathologists examine unique features like implants, surgical scars, or tattoos. **Personal Belongings and Visual Clues** - Clothing, jewellery, and ID cards can offer preliminary identification clues but must always be corroborated by scientific evidence due to the possibility of mix-ups.

Aircraft victim identification is not the task of a single agency. It requires teamwork involving: Forensic experts (pathologists, odontologists, anthropologists), Law enforcement and aviation authorities, international organizations like Interpol, Medical professionals and disaster response teams, Grief counsellors and family liaison officers. This collaboration ensures that scientific procedures are complemented by sensitive and effective communication with families.

Victim identification in air crashes is not just a forensic necessity—it is a deeply human obligation. It allows families to grieve, legal systems to function, and societies to find closure. In a globalized world where passengers from diverse regions share aircraft cabins, the need for robust, compassionate, and scientifically sound identification systems is greater than ever. Investing in forensic infrastructure, maintaining comprehensive passenger records, training disaster response teams, and strengthening international cooperation are essential steps to ensure that even in death, individuals are treated with the dignity they deserve. Ultimately, identification affirms our shared humanity and commitment to those lost in tragedy, ensuring they are never forgotten.

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